

Natural Plastic

Grade Levels:

4-6

Questions:

Can you make your own natural plastic?

Does natural plastic decompose better than oil-based plastic?

Possible Hypotheses:

A natural plastic can/cannot be made.

A natural plastic does/does not decompose faster than oil-based plastic.

Materials:

Two glass jars

Four ounces (120 ml) of whole milk

Teaspoon of vinegar

Pot and stove

Plastic spoon

Plot of soil

Procedure:

1. Pour the milk into the pot and boil it until it separates into soft masses called curds and clear liquid. Slowly pour the liquid into one glass jar and spoon the curds into the other.
2. Add the vinegar to the curds and allow the mixture to sit for two hours. The mixture will turn into a solid yellowish mass. Pour off any liquid.
3. Knead the mass into a dough, mold it into a spoon and place it on waxed paper to dry overnight.
4. Compare your spoon to the plastic spoon. Record your observations.
5. Bury both spoons in a plot of soil. After two weeks, dig up the spoons and observe any difference.

Analysis and Conclusion:

How did the plastics compare to each other before and after burial? Do some research on the cost to make natural plastic compared to oil-based plastic. What are some pros and cons to using natural plastic?

